



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/680,154

10/08/2003

Eun-Jin Ryu

Q76623

5787

23373

7590

06/14/2006

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

RIVERO, MINERVA

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/680,154	RYU ET AL.	
	Examiner	Art Unit	
	Minerva Rivero	2627	

-- Th MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) ☐ Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims ~~1 and 6~~¹⁻¹⁰ are rejected under 35 U.S.C. 102(b) as being anticipated by Takiguchi (US Patent 5,898,656).

4. Regarding claims 1 and 6, Takiguchi discloses a defect signal detecting apparatus for an optical recording/reproducing apparatus (Col. 3, Lines 40-42), comprising:

Art Unit: 2627

a maximum value detecting unit for detecting a highest amplitude among input signals during a maximum value detection period as a maximum value based on a reference maximum value (*signal level α of the upper envelope*, Col. 4, Lines 47-50; *2T and 6T repetition periods*, Col. 5, Lines 23-33);

a minimum value detecting unit for detecting a lowest amplitude among the input signals during a minimum value detection period as a minimum value based on a reference minimum value (*signal level β of the upper envelope*, Col. 4, Lines 47-50; *2T and 6T repetition periods*, Col. 5, Lines 23-33);

an asymmetry detecting unit for calculating an amount δ of asymmetry by detecting a maximum value I_L^{max} and a minimum value I_L^{min} of a signal I_L that has a maximum periodicity among the input signals, and by detecting a maximum value I_S^{max} and a minimum value I_S^{min} of a signal I_S that has a minimum periodicity among the input signals (*asymmetry A*, Col. 5, Lines 51-64); and

a defect determining unit for determining whether there is a defect in the input signals, using the maximum value, the minimum value and the amount δ of asymmetry (*judging whether asymmetry amount is out of range*, Col. 6, Lines 48-59).

5. Regarding claims 2 and 7, Takiguchi discloses a system controlling unit for providing the maximum value detecting unit and the minimum value detecting unit with the maximum value detection period and the minimum value detection period (*2T and 6T repetition periods*, Col. 5, Lines 23-33; *a is the average signal*

Art Unit: 2627

value for 2T pattern, b is the average signal value for 6T pattern, Col. 5, Lines 51-61).

6. Regarding claims 3 and 8, Takiguchi discloses the amount δ of asymmetry is calculated at the asymmetry detecting unit by an equation,

$$\delta = [(I_L^{\max} + I_L^{\min})/2 - (I_S^{\max} + I_S^{\min})/2] / (I_L^{\max} - I_L^{\min})$$

($A=(b-a)/C + 0.5$, wherein b is the average signal value $(\alpha+\beta)/2$ for the 6T pattern, a is the average signal value $(\alpha+\beta)/2$ for the 2T pattern, and c is difference $(\alpha-\beta)$ based on the measurements for the 6T (or long) pattern, Col. 5, Lines 51-64).

7. Regarding claims 4 and 9, Takiguchi discloses the defect determining unit determines a defect signal and outputs a corresponding blank signal if a ratio of the maximum value to the minimum value is higher than $1 + \Delta - \delta$, or lower than $1 - \Delta - \delta$,

where Δ is a margin of the ratio of the maximum value to the minimum value (*terminating measurement for calibration*, Col. 7, Lines 4-10; *pre-set asymmetry values A2 and A1*, Col. 6, Lines 48-61) [See Applicants' Specification, [0048], Lines 8-11 (Δ is obtained through experiments)].

Art Unit: 2627

8. Regarding claims 5 and 10, Takiguchi discloses the maximum value detected at the maximum value detecting unit is set to be a reference maximum value for a next maximum value detection period, and the minimum value detected at the minimum value detecting unit is set to be a reference minimum value for a next minimum value detection period (*sample and hold circuit*, Col. 5, Lines 34-44).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Minemura *et al.* (US 6,269,062) disclose a method for using detected phase differences for setting laser power levels.

Matsumoto (US 2002/0105874) discloses an optical disc apparatus with regulation of recording velocity and laser power.

Sano *et al.* (US 5,587,985) disclose a signal processing device for optimizing signals in an optical information reproducing apparatus.

Kadlec *et al.* (US 2002/0097644) disclose a digital tracking servo including a plurality of algorithms.

Lu *et al.* (US 6,556,526) disclose an apparatus for analyzing the read-out signal of an optical storage media.

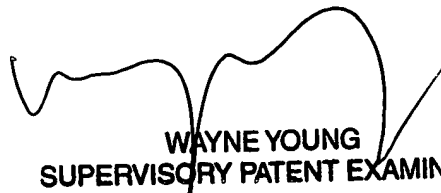
Art Unit: 2627

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minerva Rivero whose telephone number is (571) 272-7626. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MR 5/31/06


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER